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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,947	01/08/2002	Roger A. Hajjar	11971-015001	4434

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EXAMINER

LUU, THANH X

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 09/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/042,947	Applicant(s) HAJJAR ET AL.	
	Examiner Thanh X Luu	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>092002</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Objections

1. Claim 13 is objected to because of the following informalities:

In claim 13, "said optical director" lacks proper antecedent basis. Examiner recommends --said optical detector--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber et al. (U.S. Patent 5,559,622) in view of Wagner (U.S. Patent 4,261,638).

Regarding claim 1, Huber et al. disclose (see the Figure) a device, comprising: a first fiber (Fa) to carry a first optical beam; a second fiber (Fr) to carry a second optical beam; an optical switch; a detector (not shown) and a control module as claimed.

Huber et al. do not specifically disclose the optical switch as comprising a reflector and a rotational actuator as claimed. Wagner teaches (see Figure 1) of a common optical switch having a reflector and a rotational actuator (not shown). Thus, Wagner recognizes that such a configuration allows for optical switching. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to

provide the reflector and actuator configuration of Wagner in the apparatus of Huber et al. to provide a simple and cost effective manner to implement optical switching. Huber et al. further do not disclose a focusing lens as claimed. However, focusing lenses are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made use a focusing lens as claimed in the apparatus of Huber et al. in view of Wagner to concentrate light onto the detector and improve detection.

Regarding claims 2-4, Huber et al. disclose the fibers parallel to each other. Huber et al. in view of Wagner do not specifically disclose collimator lenses as claimed. However, the use of collimator lenses in optical fiber devices to improve optical coupling is well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide collimator lenses as claimed in the apparatus of Huber et al. in view of Wagner to improve optical coupling as known.

Regarding claim 5, Huber et al. in view of Wagner disclose the invention as set forth above. Huber et al. and Wagner do not specifically disclose an aperture as claimed. However, apertures are well known in the art to be used to block out unwanted light and improve detection. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an aperture as claimed in the apparatus of Huber et al. in view of Wagner to improve detection by reducing unwanted light.

Regarding claims 11, 12, 16 and 17, Huber et al. in view of Wagner disclose the invention as set forth above. Huber et al. and Wagner do not specifically disclose a

second reflector fixed to the reflector, a monitor light and a monitor detector as claimed. However, reflective encoders are widely used in the art to detect the position of a moving object. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made provide a reflective encoder as claimed in the apparatus of Huber et al. in view of Wagner to more precisely detection the position of the reflector and improve detection.

Regarding claims 6-10 and 18-20, Huber et al. in view of Wagner disclose the invention as set forth above. Huber et al. and Wagner do not specifically disclose the specific type of actuators as claimed. However, such actuators are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such actuators in the apparatus of Huber et al. in view of Wagner to reduce costs as such actuators are readily available and are cheap to produce.

4. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huber et al. in view of Riza et al. (U.S. Patent 5,208,880).

Regarding claim 13, Huber et al. disclose (see the Figure) a device, comprising: a first fiber (Fa) to carry a first optical beam; a second fiber (Fr) to carry a second optical beam; an optical switch; a detector (not shown) and a control module as claimed. Huber et al. do not specifically disclose the optical switch as comprising a reflector oriented at 45 degrees and an actuator to move the reflector in a perpendicular direction as claimed. Riza et al. teach (see Figure 1) of an alternative optical switching mechanism in which a reflector is oriented 45 degrees and moved perpendicular to

fibers. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the configuration as claimed in the apparatus of Huber et al. in view of Riza et al. as desired to provide an alternative switching configuration.

Regarding claim 14, Huber et al. in view of Riza et al. disclose the invention as set forth above. Huber et al. do not disclose a focusing lens as claimed. However, focusing lenses are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made use a focusing lens as claimed in the apparatus of Huber et al. in view of Riza et al. to concentrate light onto the detector and improve detection.

Regarding claim 15, Huber et al. and Riza et al. disclose the invention as set forth above. Huber et al. and Riza et al. do not specifically disclose collimator lenses as claimed. However, the use of collimator lenses in optical fiber devices to improve optical coupling is well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide collimator lenses as claimed in the apparatus of Huber et al. in view of Riza et al. to improve optical coupling as known.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

Art Unit: 2878

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
September 10, 2003



Thanh X. Luu
Patent Examiner